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(54) Title: IN VITRO CONSTRUCTION OF SV40 VIRUSES AND PSEUDOVIRUSES

(57) Abstract

The invention relates to constructs capable of infecting mammalian cells comprising at least one semi-purified or pure SV40 capsid protein and a constituent selected from the group consisting of an exogenous DNA, a vector comprising an exogenous DNA, an exogenous RNA, a vector comprising an exogenous RNA, an exogenous protein or peptide product, and antisense RNA, ribozyme RNA or any RNA or DNA which inhibits or prevents the expression of undesired protein(s) in said mammalian cell and optionally further comprising operatively linked regulatory elements sufficient for the expression and/or replication of said exogenous protein in a mammalian cell. The protein product is preferably a therapeutic protein or peptide product which is not made or contained in mammalian cells, or is made or contained in such cells in abnormally low amount, or is made or contained in such cells in defective form, or is made or contained in mammalian cells in physiologically abnormal or normal amount and can be an enzyme, a receptor, a structural protein, a regulatory protein or a hormone. The invention further relates to a method for the *in vitro* construction of SV40 viruses or pseudoviruses constructs according to the invention. In a further aspect, the invention relates to mammalian, preferably human cells infected with the constructs of the invention or with constructs obtained by any of the methods of the invention. Still further, the invention relates to a method of providing a therapeutic DNA, RNA, protein or peptide product or antisense RNA to a patient in need of such product by administering to the patient a therapeutically effective amount of the SV40 viruses or pseudoviruses of the invention or a therapeutically effective amount of infected cells according to the invention. Pharmaceutical compositions comprising as active ingredient a therapeutically effective amount of the SV40 viruses or pseudoviruses according to the invention or a therapeutically effective amount of infected cells according to the invention are also within scope of this application.